Improving Research by the Integration of a Collaborative Dimension in an Information Retrieval (IR) System

Authors : Amel Hannech, Mehdi Adda, Hamid Mcheick

Abstract : In computer science, the purpose of finding useful information is still one of the most active and important research topics. The most popular application of information retrieval (IR) are Search Engines, they meet users' specific needs and aim to locate the effective information in the web. However, these search engines have some limitations related to the relevancy of the results and the ease to explore those results. In this context, we proposed in previous works a Multi-Space Search Engine model that is based on a multidimensional interpretation universe. In the present paper, we integrate an additional dimension that allows to offer users new research experiences. The added component is based on creating user profiles and calculating the similarity between them that then allow the use of collaborative filtering in retrieving search results. To evaluate the effectiveness of the proposed model, a prototype is developed. The experiments showed that the additional dimension has improved the relevancy of results by predicting the interesting items of users based on their experiences and the experiences of other similar users. The offered personalization service allows users to approve the pertinent items, which allows to enrich their profiles and further improve research.

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